

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1           1. (Currently amended) A method for allocating computer system  
2 resources between concurrently executing workloads, comprising:  
3           establishing a first resource pool that specifies requirements for each of a  
4 plurality of different computer system resources, wherein the plurality of different  
5 computer system resources are components of a single computer system, wherein  
6 the computer system resources include central processing units and at least one of  
7 memory, swap space, network interfaces, and scheduling classes, and wherein  
8 establishing the first resource pool involves establishing minimum size and  
9 maximum size requirements for a given resource that can be assigned to the first  
10 resource pool;  
11           allocating the plurality of different computer system resources to one or  
12 more resource pools, including the first resource pool, to create a resource  
13 allocation, wherein requirements of the first resource pool are satisfied, wherein  
14 prior to allocating the plurality of different computer system resources, the method  
15 further comprises:  
16                       verifying that collective requirements of the one or more  
17                       resource pools can be satisfied, and  
18                       if the collective requirements cannot be satisfied, signaling  
19                       an error condition; and  
20           wherein resources allocated to the first resource pool can change over  
21 time;

22 binding a first process to the first resource pool, so that the first process  
23 has access to the plurality of different computer system resources allocated to the  
24 first resource pool; and  
25 storing a representation of the resource allocation to non-volatile storage  
26 so that the resource allocation can be reused after a machine failure.

1 2. (Original) The method of claim 1, wherein allocating the plurality of  
2 different computer system resources to one or more resource pools involves:  
3 partitioning each of the plurality of different computer system resources  
4 into one or more partitions, wherein a first partition is associated with a first  
5 resource and a second partition is associated with a second resource;  
6 allocating the first partition to a single resource pool, so that only  
7 processes associated with the single resource pool can access the first partition;  
8 and  
9 allocating the second partition to multiple resource pools so that processes  
10 associated with the multiple resource pools can share the second partition.

1 3 (Canceled).

1 4. (Original) The method of claim 1, wherein establishing the first  
2 resource pool involves selecting a file containing a representation of the first  
3 resource pool from a plurality of possible files.

1 5 (Canceled).

1 6. (Previously presented) The method of claim 1, wherein storing the  
2 representation of the resource allocation involves storing a representation of each  
3 of the one or more resource pools along with associated resources.

1           7. (Previously presented) The method of claim 1, wherein storing the  
2 representation of the resource allocation involves storing an Extensible Markup  
3 Language (XML) representation of the resource allocation.

1           8. (Original) The method of claim 1,  
2 wherein the first resource pool is associated with a first project; and  
3 wherein the first process is one of a plurality of processes associated with  
4 the first project.

1           9 (Canceled).

1           10. (Original) The method of claim 1, further comprising dynamically  
2 adjusting the resource allocation during system execution.

1           11. (Original) The method of claim 1, wherein the plurality of different  
2 computer system resources can include:  
3           central processing units;  
4           semiconductor memory;  
5           swap space; and  
6           networking resources.

1           12. (Currently amended) A computer-readable storage medium storing  
2 instructions that are executed by a computer to cause the computer to perform a  
3 method for allocating computer system resources between concurrently executing  
4 workloads, the method comprising:  
5           establishing a first resource pool that specifies requirements for each of a  
6 plurality of different computer system resources, wherein the plurality of different  
7 | computer system resources are components of a single computer system, wherein

8 | the computer system resources include central processing units and at least one of  
9 | memory, swap space, network interfaces, and scheduling classes, and wherein  
10 | establishing the first resource pool involves establishing minimum size and  
11 | maximum size requirements for a given resource that can be assigned to the first  
12 | resource pool;  
13 |         allocating the plurality of different computer system resources to one or  
14 | more resource pools, including the first resource pool, to create a resource  
15 | allocation, wherein requirements of the first resource pool are satisfied, wherein  
16 | prior to allocating the plurality of different computer system resources, the method  
17 | further comprises:  
18 |                 verifying that collective requirements of the one or more  
19 |                 resource pools can be satisfied, and  
20 |                 if the collective requirements cannot be satisfied, signaling  
21 |                 an error condition; and  
22 |         wherein resources allocated to the first resource pool can change over  
23 | time;  
24 |         binding a first process to the first resource pool, so that the first process  
25 | has access to the plurality of different computer system resources allocated to the  
26 | first resource pool; and  
27 |         storing a representation of the resource allocation to non-volatile storage  
28 | so that the resource allocation can be reused after a machine failure.

1         13. (Original) The computer-readable storage medium of claim 12,  
2         wherein allocating the plurality of different computer system resources to one or  
3         more resource pools involves:  
4         partitioning each of the plurality of different computer system resources  
5         into one or more partitions, wherein a first partition is associated with a first  
6         resource and a second partition is associated with a second resource;

7 allocating the first partition to a single resource pool, so that only  
8 processes associated with the single resource pool can access the first partition;  
9 and  
10 allocating the second partition to multiple resource pools so that processes  
11 associated with the multiple resource pools can share the second partition.

1 14 (Canceled).

1 15. (Original) The computer-readable storage medium of claim 12,  
2 wherein establishing the first resource pool involves selecting a file containing a  
3 representation of the first resource pool from a plurality of possible files.

1 16 (Canceled).

1 17. (Previously presented) The computer-readable storage medium of  
2 claim 12, wherein storing the representation of the resource allocation involves  
3 storing a representation of each of the one or more resource pools along with  
4 associated resources.

1 18. (Previously presented) The computer-readable storage medium of  
2 claim 12, wherein storing the representation of the resource allocation involves  
3 storing an Extensible Markup Language (XML) representation of the resource  
4 allocation.

1 19. (Original) The computer-readable storage medium of claim 12,  
2 wherein the first resource pool is associated with a first project; and  
3 wherein the first process is one of a plurality of processes associated with  
4 the first project.

1           20 (Canceled).

1           21. (Original) The computer-readable storage medium of claim 12,  
2 wherein the method further comprises dynamically adjusting the resource  
3 allocation during system execution.

1           22. (Original) The computer-readable storage medium of claim 12,  
2 wherein the plurality of different computer system resources can include:  
3           central processing units;  
4           semiconductor memory;  
5           swap space; and  
6           networking resources.

1           23. (Currently amended) An apparatus that allocates computer system  
2 resources between concurrently executing workloads, comprising:  
3           an establishment mechanism that is configured to establish a first resource  
4 pool that specifies requirements for each of a plurality of different computer  
5 system resources, wherein the plurality of different computer system resources are  
6 components of a single computer system, wherein the computer system resources  
7 include central processing units and at least one of memory, swap space, network  
8 interfaces, and scheduling classes, and wherein the establishment mechanism is  
9 configured to establish minimum size and maximum size requirements for a given  
10 resource that can be assigned to the first resource pool;  
11          an allocation mechanism that is configured to allocate the plurality of  
12 different computer system resources to one or more resource pools, including the  
13 first resource pool, to create a resource allocation, wherein requirements of the  
14 first resource pool are satisfied, and wherein resources allocated to the first  
15 resource pool can change over time;

16 a verification mechanism that is configured to verify that collective  
17 requirements of the one or more resource pools can be satisfied;  
18 wherein if the collective requirements cannot be satisfied, the verification  
19 mechanism is configured to signal an error condition;  
20 a binding mechanism that is configured to bind a first process to the first  
21 resource pool, so that the first process has access to the plurality of different  
22 computer system resources allocated to the first resource pool; and  
23 an archiving mechanism that is configured to store a representation of the  
24 resource allocation to non-volatile storage so that the resource allocation can be  
25 reused after a machine failure.

1 24. (Original) The apparatus of claim 23, wherein the allocation  
2 mechanism is configured to:  
3 partition each of the plurality of different computer system resources into  
4 one or more partitions, wherein a first partition is associated with a first resource  
5 and a second partition is associated with a second resource;  
6 allocate the first partition to a single resource pool, so that only processes  
7 associated with the single resource pool can access the first partition; and to  
8 allocate the second partition to multiple resource pools so that processes  
9 associated with the multiple resource pools can share the second partition.

1 25 (Canceled).

1 26. (Original) The apparatus of claim 23, wherein the establishment  
2 mechanism is configured to select a file containing a representation of the first  
3 resource pool from a plurality of possible files.

1 27 (Canceled).

1           28. (Previously presented) The apparatus of claim 23, wherein the  
2   archiving mechanism is configured to store a representation of each of the one or  
3   more resource pools along with associated resources.

1           29. (Previously presented) The apparatus of claim 23, wherein the  
2   archiving mechanism is configured to store an Extensible Markup Language  
3   (XML) representation of the resource allocation.

1           30. (Original) The apparatus of claim 23,  
2           wherein the first resource pool is associated with a first project; and  
3           wherein the first process is one of a plurality of processes associated with  
4   the first project.

1           31 (Canceled).

1           32. (Original) The apparatus of claim 23, further comprising an adjustment  
2   mechanism that is configured to dynamically adjust the resource allocation during  
3   system execution.

1           33. (Original) The apparatus of claim 23, wherein the plurality of different  
2   computer system resources can include:  
3           central processing units;  
4           semiconductor memory;  
5           swap space; and  
6           networking resources.